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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,572	06/26/2001	Graeme R. Smith	SMITH=11	1761
1444	7590	01/13/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			MICHALSKI, JUSTIN I	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/888,572	SMITH, GRAEME R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Justin Michalski	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 September 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-29 and 31 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-29,31 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/3/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The spacing of the lines of the specification is such as to make reading and entry

of amendments difficult. New application papers with lines double spaced on good quality paper are required. In addition no section headings are found in the specification.

3. The claims are objected to because of the following informalities: Each claim must be the object of a sentence starting with "I (or we) claim," "The invention claimed is" (or the equivalent). See MPEP 608.01(m). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2644

5. Claims 1 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the host processor" in lines 20 to 21. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the user selected parameters" in lines 25 to 26. There is insufficient antecedent basis for this limitation in the claim.

The term "conventional" in claim 28 is a relative term which renders the claim indefinite. The term "conventional" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 7, 11, 19, 29, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Brien (US Patent 6,107,876).

Regarding Claim 1, O'Brien discloses a modular and software definable preamplifier apparatus comprising: (a) one or a plurality of software or firmware definable logic blocks, these logic blocks being based on programmable logic devices, which are configured in at least one of real time and non real time to implement in hardware different signal processing functions required for at least one of different digital signal processing algorithms and different audio processing protocols (O'Brien discloses the amplifier is implemented in FPGA circuitry; Col. 3, lines 58-59), thus allowing the apparatus to be used in different audio system configurations, the programmable logic providing hardware acceleration of complex and software intensive functions (O'Brien discloses different output stage topologies; Col. 3, lines 58-64), the configuration of the software definable logic blocks being performed by either configuration data stored in local memory associated with the programmable logic devices (it is inherent that FPGAs contain memory) or by the host processor (Col. 1, lines 53-55) transferring the configuration data to the programmable logic devices directly or indirectly to local memory associated with the programmable logic devices (It is inherent that the FPGAs contain memory), the choice of configuration program depending on the user selected parameters (O'Brien discloses the user of the invention is provided flexibility in choosing various operating parameters; Col. 3, liens 58-63); and (b) a host processor (O'Brien discloses a DSP or "host processor"; Col. 1, lines 53-55) and associated program memory means for controlling, monitoring, and configuring the apparatus (It is inherent that DSP and FPGAs will contain amounts of memory).

Regarding Claim 2 and 29, it is inherent that the DSP and FPGAs will contain memory means for storing digitized audio data signals from Fig. 1, input 12.

Regarding Claim 7, O'Brien further discloses that the circuitry is implemented in FPGA (Col. 3, lines 58-61).

Regarding Claim 11 O'Brien further discloses an A/D converter (Fig. 1, converter 70).

Regarding Claim 19, O'Brien further discloses digital switching means are employed to route and transfer data from the apparatus (Col. 4, lines 9-15).

Regarding Claim 31, O'Brien further discloses software definable logic blocks including memory and digital signal processors (Col. 1, lines 54-46; memory inherent in FPGAs) determined by user inputs, i.e. flexibility in choosing various operating parameters (Col. 3, lines 58-64).

#### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 1 above in view of Greif (WO 97/02570).

Regarding Claim 3, O'Brien discloses a device as stated apropos of claim 1 above but does not disclose mezzanine card modules that allow the apparatus to be

expanded or upgraded. Greif discloses an expandable multi media terminal unit for use in digital audio and multiple protocols, i.e. RDS and MPEG (Page 2, paragraph 7) which will inherently contain memory and a signal processor in order to process the digital information.

Regarding Claim 14, O'Brien further discloses the circuitry based on programmable logic, i.e. FPGA (Col. 3, lines 58-63).

10. Claims 4-6, 9, 12, 13, 17, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 1 above in view of Wang et al. ("Wang") (US Patent 5,765,027).

Regarding Claim 4, O'Brien discloses a device as stated apropos of claim 1 above but does not disclose modem means allowing internet access. Wang also disclose a FPGA device (Col. 2, lines 19-28) comprising a modem (Fig. 1, reference 120) to allow communication with a local area network, i.e. internet (Col. 2, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include modem means in order to allow communication with a area network to transfer information as taught by Wang.

Regarding Claim 5, Wang further discloses the flash memory and PCMCIA cards: type I (Col. 1, lines 36-49).

Regarding Claim 6, O'Brien further disclose the circuitry is comprised of ASIC circuits (Col. 2, lines 19-28).

Regarding Claim 9, Wang further discloses modem (Fig. 1, 120) is external to device 100.

Regarding Claim 12, Wang further discloses wireless communication means (RF communication module (Fig.1, 120)).

Regarding Claim 13, Wang further discloses wireless communication module 120. It is well known in the art that IEEE 802.11 is a standard communication protocol and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include IEEE 802.11 as a communication protocol to transfer information by wireless means.

Regarding Claim 17, Wang further discloses PCMCIA architecture found in PC computer and communicating on a local area network, i.e. download and upload (Col. 2, lines 19-37).

Regarding Claim 18, Wang further discloses remote control means (Col 2, lines 30-46).

Regarding Claim 25, Wang further discloses peripheral units situated remotely (Col. 2, lines 30-46).

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien.

It is obvious that one or more users may listen to the output of (Fig. 1) speaker 22. O'Brien further discloses a signal input (12) and a signal output (signal from 20 to 21).

12. Claims 10 and 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 1 above in view of Todter et al. ("Todter") (US Patent 5,937,070).

Regarding Claim 10 O'Brien discloses a device as stated apropos of claim 1 above but does not disclose remote microphone means to adapt to acoustical settings. Todter discloses remote microphones (Fig. 5) to detect and cancels ambient noise (Col. 1, lines 15-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include remote microphones to detect and cancel ambient noise.

Regarding Claim 15 Todter further discloses implementation to reduce reverberant noise (Col. 15, lines 5-10).

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 1 above in view of Keir (US Patent 5,467,400).

O'Brien discloses a device as stated apropos of claim 1 above but does not disclose emulation of a valve amplifier. Keir discloses that valve amplifiers are highly regarded for their sound quality and emulation of the sound characteristics of valve amplifiers (Col. 1, lines 1-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to emulate a valve amplifier for its high sound quality as taught by Keir.

14. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 19 above in view of McLaughlin et al ("McLaughlin") (US Patent 3,931,474).

Regarding Claims 20-22, O'Brien discloses a device as stated apropos of claim 19 above but does not disclose cross bar switching. McLaughlin discloses cross bar switching being a common control type for establishing a path between two stations (Col. 1, lines 20-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include cross bar switching common switching system to route signals to destinations as taught by McLaughlin.

15. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien as applied to claim 1 above in view of Ledermann (US Patent 6,278,784).

Regarding Claim 23 and 24 O'Brien discloses a device as stated apropos of claim 1 but does not disclose CD or DVD storage means. It is well known in the art that CD and DVD are means of storing audio information. (See Ledermann Col. 1, lines 14-20).

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien/Greif as applied to claim 3 above in further view of Juszkiewicz et al. ("Juszkiewicz") (US Patent 6,353,169).

O'Brien/Greif discloses a device as stated apropos of claim 1 above but does not disclose the cards being hot swappable. Juszkiewicz discloses an amp with rack units

being hot swappable for maintenance and replacement (Col. 8, lines 11-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use hot swappable units to facilitate maintenance and replacement as disclosed by Juszkiewicz.

17. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien/Greif as applied to claim 3 above in view of Suggs (US Patent 6,064,743).

O'Brien/Greif disclose a device as stated apropos of claim 3 above but do not disclose the device being a plug-n-play device. Suggs discloses a plug-n-play device to provide compatibility with existing standard or popular hardware and software applications (Col. 14, lines 16-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include plug-n-play to provide compatibility with existing hardware and software applications as taught by Suggs.

### ***Conclusion***

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (703)305-5598. The examiner can normally be reached on 8 Hours, 5 day/week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM



HUYEN LE  
PRIMARY EXAMINER

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